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ABSTRACT

The developmental effort described in this paper concerns the components of individualized performance-based instructional packages (modules) designed to develop professional competencies needed for vocational teachers. The research project was conducted by two state universities in cooperation with The Center for Vocational and Technical Education, The Ohio State University. Module components detailed in the paper include performance objectives, resource materials, and learning experiences. Procedures employed in the development of a module are given. A related document is available in this issue as VT 018 414. (MF)

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COOPERATIVE DEVELOPMENT OF VOCATIONAL TEACHER EDUCATION MODULES

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COOPERATIVE DEVELOPMENT OF VOCATIONAL TEACHER EDUCATION MODULES

The research described in the preceding presentation forms the basis for the current project, "Cooperative Development of Professional Education Curricula." This project is being conducted in cooperation with the University of Missouri-Columbia, Oregon State University, and their respective state departments of vocational education. The faculties of the Department of Practical Arts and Vocational-Technical Education at the University of Missouri-Columbia and the Division of Vocational, Adult and Community College Education at Oregon State University as well as Oregon and Missouri State Department representatives are actively involved in this cooperative effort with the Center for Vocational and Technical Education at the Ohio State University.

A Center site team consisting of two R & D Specialists, one research associate and a secretary are located at both the Missouri and Oregon sites. These Center personnel work with faculty writing and review teams from each cooperating institution in the development of individualized performance-based instructional packages (modules) designed to develop professional competencies needed by vocational teachers.

Our discussion of this development effort will be concerned with two questions: (1) What are the components of a module? and (2) How are instructional modules developed in this cooperative effort?

MODULE COMPONENTS

The modules (individualized learning packages) consist of the following components:

Title Page

Introduction

Performance Objectives

Resource Materials

Learning Experiences

Module Supplement

Each of these components is detailed in the paragraphs which follow.

TITLE PAGE

The first page of the module is the title page, consisting of the module title, the prerequisites and directions for the learner.

The Module Title contains an action verb and reflects the teaching role competency as indicated in the terminal objective.

The Prerequisites indicate the competencies that must be attained before starting the module. Prerequisite modules are kept to a minimum.

The Directions introduce the learner to the sequence of module activities and orient him to accomplishment of the performance objectives. They also provide him with a means of trying to "test-out" of the module if the learner is so inclined.

INTRODUCTION

The introduction establishes the frames of reference for the entire module. It clarifies the relationship of this particular module to other modules and to the entire teacher education program, defines

important terms, and motivates the learner by explaining the importance of the competency the module is designed to develop. Although short and concise, the introduction includes enough informative material to provide the learner with an overview of the purpose and content of the module.

By including a clear orientation to the terminal objective or competency to be achieved upon completion of the module, the introduction aids the learner, with the help of his resource person, to decide whether the module is applicable to his needs at this time in his teacher education program.

PERFORMANCE OBJECTIVES

Performance objectives are statements describing:

(1) the activities that a learner will be able to perform;

(2) the conditions under which the activity will take place, and

(3) the criteria for assessing whether or not the desired level of performance has been attained.

Performance objectives describe observable measurable learner characteristics. Therefore, they focus on the learner's ability to demonstrate the desired teaching behaviors, rather than only to have knowledge (cognition) of the behavior.

Each module contains two types of performance objectives. The first type is a terminal objective which is a statement of the competency the learner can expect to demonstrate in the teacher role upon completion of the entire module. The second type consists of several enabling objectives, which are statements of the behaviors needed to achieve the terminal objective. All of the terminal objectives for the modules are derived from the general objectives, which were

generated during prior Center research.

RESOURCE MATERIALS

Resource materials for a module are the supporting printed materials and media needed by the learner to complete the learning experiences. Whenever possible and practical, the resource materials are included with the module. For ease of reference, all resource materials cited within the learning experiences are listed on a Resources List at the beginning of the module.

LEARNING EXPERIENCES

Each learning experience in the module begins with a complete statement of its performance objective, including the conditions and criterion, followed by the learning activities and evaluation. Alternate and/or optional learning activities are also provided whenever possible.

The performance objectives set the parameters for the learning experiences, which, in turn, help the learner develop the competency specified by the terminal objective. Thus, the learning experiences and the performance objectives go hand in hand and are sequenced so that they progress from the initial stage (the presentation of the new concept, attitude and/or skill), to the application stage (the simulation and/or role playing phase), and finally terminate in an activity in a "real world" setting -- that is, the competency is performed in an actual school setting. At this point the learner is ready for the assessment of his teaching competency which the module was designed to develop.

The activities of a learning experience may involve the learner in reading, viewing and/or listening to prescribed media or engaging in some form of teaching performance. In the margin to the left of each learning

experience, a key action verb is provided to indicate to the learner the nature of the activity in which he will be involved. In some learning activities, the learner observes or participates in an educational event or activity. A particular interview, a private conference, or a seminar activity may also be included. Such activities assist the learner to attain the performance objectives for which the learning experience was designed.

Feedback in a learning experience may come from a variety of sources, ranging from a self-test to feedback from peers, a resource person, or others who have observed the learner perform the competency. There may be a written test, provided with a key to facilitate a self-check, or a rating instrument which the learner or others use to evaluate the performance. The feedback materials provide objective checks for the learner as he progresses through the module. The learner is given clear directions as to how, when and where these checks are to be administered, along with the necessary materials and scoring keys.

The last learning experience also serves as the assessment and may be defined as the measuring process used to determine the learner's level of mastery of a set of objectives. Measurement may take place prior to or following the completion of the module. That is, in the directions appearing at the beginning of the module, the learner is given the option of being assessed now if he feels he can demonstrate the competency or proceeding through the module and then being assessed.

The last learning experience is provided to measure whether or not the learner can demonstrate the competency identified by the terminal performance objective. The assessment evaluates performance and is directly tied to the terminal performance objective.

A primary consideration in the module development process is that the learner be assessed on what the terminal performance objective actually specifies. This is a most important standard to meet, since anything less will result in an invalid, non-reliable evaluation. If a terminal performance objective indicates certain conditions under which evaluation should take place (e.g., a real school setting), this standard must be adhered to. If certain behaviors are specified (e.g., a demonstration of a manipulative skill will be presented), the checklist or other rating instrument used to assess performance should actually reflect those behaviors which are critical to success.

MODULE SUPPLEMENT

Supplementary printed materials needed by the person pursuing the mdoule such as self-tests, keys to self-tests, information sheets, and performance rating scales are included in the Module Supplement.

MODULE DEVELOPMENT PROCEDURES

Now let us focus attention upon procedures employed in the development of a module. Although there are slight variations in the procedures followed in the development of a module, the module development cycle followed by both sites is much the same.

The 384 performance elements, clustered into ten performance categories, provide the performance base for the professional education curricula. These categories of performance elements were divided between the two cooperating institutions, University of Missouri-Columbia and Oregon State University, on the basis of faculty interest and expertise.

CONCEPTUAL FRAMEWORK

The first involvement of faculty is in the review of a conceptual framework for a category. The conceptual framework is the clustering of general objectives into modules with tentative titles, and shows their relationship to other modules in the category. Faculty members are asked to review and react to the proposed conceptualization. They are encouraged to provide constructive criticism when they feel that it would provide for the development of more effective learning packages. At this time faculty members are also asked to indicate modules on which they would prefer to work as a member of a writing team.

WRITING TEAMS

Writing teams of two to three faculty members and a Center site team member are then formed. Care is exercised in the formation of writing teams to see that each consists of a "mix" of vocational service areas, to insure that the concept of "core curriculum" is carried into the development of modules.

The writing team meets for the purpose of identifying tentative performance objectives and learning experiences, and suggesting appropriate instructional resources. General objectives derived from the research serve as a basis for the performance objectives in each module. The Center site team member then writes the first draft of the module.

FACULTY REVIEW

At this point, the module is sent to the original writing team and to one other writing team for their review and suggestions for improvement. Reviewers are encouraged to provide constructive criticism of the draft.

FIRST MODULE REVISION

The Center site team member then revises the module, incorporating recommendations of the review team. He may call for a meeting of this small group of reviewers to resolve problems and clarify reviewers' recommendations.

FACULTY REVIEW

Following this revision, the module is then reviewed by a faculty review team made up of at least one representative from each of the vocational service areas. A review form is utilized which asks for an evaluation of each module component as well as for an overall evaluation of the module as a learning package.

SECOND MODULE REVISION

The module is again revised by the Center site team member incorporating suggestions resulting from the large group review.

FORWARDING OF MODULE

The module is then forwarded to the other site and to the Center. At the other site, the module is reviewed by a faculty review team (composed of representatives from each vocational service area) and forwarded to the Center along with the faculty reviews of the module.

CENTER REVIEW, SYNTHESIS AND REVISION

Next, a review team at the Center (Columbus) examines the module, and a synthesis is developed of reviews from faculty teams at each site and from the Center. The module is then revised at the Center and prepared for testing at the sites.

In conclusion, we feel that development conducted in the real world of teacher education, involving many vocational teacher educators from all vocational service areas at different geographic locations, will result in high quality vocational teacher education curricula which have wide acceptability.

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